REMARKS

In the Office Action dated December 18, 2002, the Examiner indicated that "Applicant's election without traverse of Group I, and Species C in Paper No. 7 is acknowledged.". Claims 4, 5, 11, 14-31 and 34 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) "as being drawn to a nonelected Group and Species." Claims 1, 2, 32, 35, 36 and 44, 46 and 47 have been amended. Claims 1-3, 6-10, 12, 13, 32, 33, and 35-49 remain before the Examiner for reconsideration.

The Examiner rejected claims 1, 2, 3, 6, 7, 9,10, 32, 33, 35, 36, 40 - 49 under 35 U.S.C. 102(b) "as being clear [sic] anticipated by Hitchins et al. (USPN 5944694)." Specifically, the Examiner assured that:

> Hitchins et al. discloses a front loaded syringe with a mounting flange, a drip flange, and a length of material consists of a set of indicators to provide information about the syringe's configuration. (Figure 1 B - 713, 10, and entire reference).

Applicants respectfully traverse the Examiner's rejection.

Hitchins et al. discloses syringes and injectors that enable the use of previously known syringe materials at higher pressures than previously attainable or the use of other materials not previously usable with high pressure-syringe and injector designs. In one embodiment, for example, Hitchens et al. discloses a syringe including an elongated cylindrical main body having a first pair and a second pair of mounting flanges. As illustrated, for example, in Figure 9 of Hitchins et al., the mounting flanges thereof can be provided with recesses or depressions (190 and 192), to convey information concerning the syringe and/or its contents to an injector. Hitchins et al. sets forth that "varying the presence, type and/or location of such depressions may be used to encode

information." A spring-actuated sensor switch 194 of Hitchens et al. can be positioned to be activated by one of depressions 190 or 192 to indicate, for example, the type of syringe which has been installed, the identity of the fluid contained therein and/or the amount of fluid contained therein.

Hitchens et al. does not disclose or suggest a length of material (for example, a syringe wall) including a plurality of indicators along thereof at unique predetermined positions along the length of material, wherein each of the indicators is adapted to interact with at least a portion of electromagnetic energy being propagated through the length of material along the length of the material in a manner that is detectable, and further wherein the predetermined positions of the indicators providing information about the syringe configuration. The Examiner has seemed to have impermissibly ignored such claim limitations in the present case. See Ex Parte Murphy and Burford, 217 USPQ 479, 481 (P.O. Bd. Appls. 1982) ("it is error to ignore specific limitations distinguishing over the cited reference"); In re Boe, 505 F.2d 1297, 184 USPQ 38 (CCPA). Once again, unlike the presently claimed invention, Hitchens et al. discloses the mechanical cooperation of a spring-actuated sensor switch with one or more depressions or detents to provide information of syringe configuration.

Claims 1, 2, 3, 6, 7, 8, 9, 10, 12, 13, 32, 33, 35, 36, 37 were also rejected by the Examiner under 35 U.S.C. 102(e) "as being anticipated by Aasmul et al. (USPAppPub 2002/0000471)." Specifically, the Examiner asserted that:

> Aasmul et al. discloses a length of material that can be used on syringes that consists of indicators that represent a code when a light beam (electromagnetic energy) is transmitted and reflected from the length of material (notches and grooves) therefore, providing information about the syringe. (Figures 1,2,3,4,5 and Paragraph [0002], [0003], [0011], [0041], and entire reference).

Applicants respectfully traverse the Examiner's rejection.

Aasmul discloses a cartridge (1) for an injection device which includes thereon a code represented by a number of bars (2, 3, 4, 5) that are oriencted perpendicular to the axis of the cartridge. The bars (2, 3, 4, 5) are disclosed to be transparent and are provided with an optical grating which diffracts and reflects light impinging on the surface carrying the code so that a portion of the light is reflected from the surface of the bar to be detected for the indication of the presence of the bar when the bar passes a reading light field. The reflections from the bars can be interpreted as representing "1"s and "0"s in a binary code.

Like Hitchens et al., Aasmul et al. does not disclose or suggest a length of material (for example, a syringe wall) including a plurality of indicators along thereof at unique predetermined positions, wherein each of the indicators is adapted to interact with at least a portion of electromagnetic energy being propagated through the length of material along the length of the material in a manner that is detectable, and further wherein the predetermined positions of the indicators providing information about the syringe configuration.

To the contrary, Aasmul discloses a what is essentially an optical scanning technique in which the "bar code" is not added to the cartridge of Aasmul et al. via a label, but is formed on the cartridge using bands or areas of optical grating. Unlike the present invention, in which light must be "propagated" through the length of material (or syringe wall) in which the indicators are positioned to interact with the indicators in a manner that is detectable, light is directed to impinge upon the areas of optical grating of the cartridges of Aasmul from outide of the cartridge in a direction generally orthogonal to the orientation of the axis of the cartridge. See, for example, Figures 1 through 5 of Aasmul et al. Most of the light transmits through the generally translucent optical gratings of Aasumul et al. in a direction generally orthogonal to the axis thereof and some is reflected. The reflected light can be detected by a sensor.

Once again, there is no disclosure or suggestion in Aasuml et al. of propagating light or other electromagnetic energy through the length of the cartridge thereof to interact with indicators. Indeed, even if, for example, light could be propagating through the cartridges of Aasmul et al. (for which, there is no disclosure in Aasmul et al.), it is not clear that the optical gratings of Aasmul et al. are suitable to interact with such (internally) propagated light to create a detectable signal. Moreover, even if the first band of optical grating (see, for example, Figure 1 of Aasmul et al.) interacted with, for example, light being propagated through the wall of the cartridge Aasmul et al. along its length, it is likely that there would be sufficient light energy propagated through the cartridge of Aasmul et al. near the surface of such cartridge to create a detectable interaction with optical grating bands further down the axis of the cartridge.

Applicants have amended the claims of the present invention to more clearly indicate that (unlike the case of Hitchins et al. and/or the case of Aasmul et al.) electromagnetic energy is propagated through the length of material (for example, a syringe wall) along the length of the length of material. That the materials of the present invention are adapted to propogate electromagnetic energy through the materials along their length is inherent in the original claim language, however. In that regard, as set forth on page 5 of the specification of the present application in explaining "propagation" of, for example, light energy, through a material of the present invention:

> In one embodiment, the electromagnetic energy is light energy and the length of material can, for example, have a refractive index greater than the refractive index of an adjacent environment such that light energy can be internally reflected in the material along its length. Internal reflectance assists in efficiently propagating light energy through the length of the material. Indicators suitable for use with light energy include, for example, angled surfaces in the syringe wall adapted to refract and/or reflect light energy outside of the syringe wall.

The Examiner also rejected claims 1-3, 6-10, 12, 13, 32, 33, 35-49 under 35 U.S.C. 103(a) "as being unpatentable over Hitchins et al. as applied to claim 1-3, 6-10, 32, 33, 35, 36, 40 - 49 above, and further in view of Aasmul et al. as applied to claims 1-3, 6-10,12, 13, 32, 33, 35 - 37 above." Specifically, the Examiner assured that:

> Hitchins et al. disclosed the claimed invention but failed to fully disclose the workings of how the indicator and the encoder reflect and refract the light beams to form the code that provides information about the syringe.
>
> Aasmul et al. discloses a length of material that refracts and reflects light to provide information about the syringe.
>
> At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Hitchins et al. with Aasmul et al., because Aasmul et al. teaches that adding a length of material comprising notches and grooves and wherein the length of material allows light to be reflected and refracted; provides for a more stable and accurate way of coding information regarding the syringe, such as orientation and content.
>
> Therefore, it would have been obvious to combine Hitchins et al. with Aasmul et al. to obtain the specified invention in claims 1-3, 6-10, 12, 13, 32, 33, 35-49.

Applicants respectfully traverse the Examiner's rejection.

For the reasons set forth above, Applicants respectfully traverse the Examiner's rejection. Hitchins et al. does not overcome the deficiencies of Aasmul et al. set forth above.

In view of the above and remarks and amendments, the Applicants respectfully requests that the Examiner withdraw rejection of the claims set forth in the Office Action of December 18, 2002, indicate the allowability of these claims and arrange for an official Notice of Allowance to be issued in due course..

Respectfully submitted,

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